

## **Clock Signal Decoupling for Synchronous Operation**

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### **ABSTRACT OF THE DISCLOSURE**

Method and apparatus is described for decoupling data from a clock signal and recoupling the data to a different clock signal for subsequent synchronous processing by a pointer processor. More particularly, on a receive or drop side, one buffer is configured to store payload pointers and a synchronous payload envelope arriving clocked by a line clock signal, while another buffer is configured to store TOH or SOH arriving clocked by the line clock signal. Each buffer clocks out such stored information off of a same system clock signal, such as a drop clock signal. On a transmit or add side, a buffer is configured to store payload pointers and a synchronous payload envelope. This buffer clocks in such stored information off of a system clock signal, such as an add clock signal, and clocks out such stored information off of a transmit reference clock signal. Output of such buffers, whether on a drop or add side, is provided to a pointer processor buffer, where both an input side and an output side of the pointer processor buffer are operated off of a system clock signal or a signal synchronized with the system clock signal.